AMENDMENTS TO THE CLAIMS

1. (Original)A regulation structure, comprising:

a first flow channel in which a first liquid flows;

a blocking unit which communicates with said first flow channel and blocks said first liquid; and

a second flow channel introducing a second liquid to said blocking unit,

which regulates the flow of said first liquid from said first flow channel to said second flow channel.

2. (Original) A regulation structure, comprising:

a first flow channel;

a second flow channel;

a communication unit communicating with these flow channels; and

a blocking unit which is formed in said communication unit and blocks flow of said first liquid from said first flow channel to said second flow channel,

wherein said blocking unit regulates flow of said first liquid from said first flow channel to said second flow channel when there is no liquid in said second flow channel, and allows flow between said first flow channel and said second flow channel when there is a liquid in said second flow channel.

3. (Currently amended) The regulation structure according to Claim 1 ~~or 2~~,

wherein said first flow channel and said second flow channel are placed in parallel with each other in the region close to said blocking unit.

4. (Currently amended) The regulation structure according to Claim 1 ~~any of Claims 1 to 3~~,

wherein said first flow channel and said second flow channel are flow-channel grooves formed on a single substrate.

5. (Currently amended) The regulation structure according to Claim 1 ~~any of Claims 1 to 4~~,

wherein said blocking unit has a region more lyophobic to said first liquid than said first flow channel.

6. (Currently amended) The regulation structure according to Claim 1 ~~any of Claims 1 to 5~~,

wherein the blocking unit has a surface area per unit volume larger than that of said first flow channel.

7. (Currently amended) The regulation structure according to Claim 1 ~~any of Claims 1 to 6~~,

wherein said blocking unit has multiple communicating flow channels formed in a barrier separating said first flow channel and said second flow channel.

8. (Currently amended) The regulation structure according to Claim 1 ~~any of Claims 1 to 7~~,

wherein said blocking unit has a porous material.

9. (Currently amended) The regulation structure according Claim 1 ~~to any of Claims 1 to 8~~,

wherein said blocking unit has a single or multiple projections.

10. (Currently amended) The regulation structure according Claim 1 ~~to any of Claims 1 to 9~~,

wherein said first flow channel has a first opening communicating with the external atmosphere, and

said second flow channel has a second opening communicating with the external atmosphere.

11. (Currently amended) A separation device, comprising:

a separation unit which separates a particular substance in a sample solution;

the regulation structure described in Claim 1 ~~any of Claims 1 to 10~~;

an inlet unit for said sample-solution;

an inlet unit for a washing-solution; and

an inlet unit for an eluent liquid for said particular substance,

wherein said regulation structure communicates with said separation unit via said first flow channel,

said sample-solution inlet unit and said washing-solution inlet unit communicate with said first flow channel between said regulation structure and said separation unit, and

said eluent-liquid inlet unit communicates with said regulation structure via said second flow channel.

12. (Original) A gradient forming device, comprising:

a forward flow channel in which a first composition solution flows;

a backward flow channel placed in parallel with said forward flow channel in which a second composition solution flows;

a first inlet unit which communicates with said forward flow channel and introduces the stock solution of said first composition solution into said forward flow channel;

a second inlet unit which communicates with said backward flow channel in the downstream side of said forward flow channel and supplies the stock solution of said second composition solution into said backward flow channel; and

a barrier which separates said forward and backward flow channels and allows permeation at least of said specific component in said first composition solution or said second composition solution.

13. (Original) The gradient forming device according to Claim 12,

wherein said forward flow channel and said backward flow channel are flow-channel grooves formed on a single substrate.

14. (Currently amended) The gradient forming device according to Claim 12 ~~or 13~~,

wherein said barrier has multiple flow channels communicating with said forward flow channel and said backward flow channel.

15. (Currently amended) The gradient forming device according to Claim 12 ~~or 13~~,

wherein said barrier is made of a membrane allowing permeation at least of said specific component.

16. (Currently amended) The gradient forming device according to Claim 12 ~~any of Claims 12 to 15~~, further comprising a liquid switch having a blocking unit which is provided in said backward flow channel at downstream side of the region in contact with said barrier and blocks said second composition solution and a trigger flow channel which communicates with said backward flow channel in said blocking unit or the region downstream side thereof and communicates with said forward flow channel in said first inlet unit or the region downstream side thereof and introduces said first composition solution to said blocking unit.

17. (Original) A microchip, comprising a substrate, said separation device according to Claim 11 formed on said substrate, and a gradient forming device formed on said substrate,

wherein said gradient forming device includes:

a forward flow channel in which a first composition solution flows;

a backward flow channel placed in parallel with said forward flow channel in which a second composition solution flows;

a first inlet unit which communicates with said forward flow channel and introduces the stock solution of said first composition solution into said forward flow channel;

a second inlet unit which communicates with said backward flow channel in the downstream side of said forward flow channel and supplies the stock solution of said second composition solution into said backward flow channel; and

a barrier which separates said forward flow channel and said backward flow channel and allows permeation at least of the specific component in said first composition solution or said second composition solution, and

wherein said gradient solution-collecting unit communicates with said eluent-liquid inlet unit included in said separation device.

18. (Original) A mass spectrometric system, comprising

a separation unit which separates a biological sample according to the molecule size or the property thereof,

a pretreatment unit which performs pretreatments including enzyme digestion treatment of the sample separated by said separation unit,

a drying unit which dries the pretreated sample, and

a mass spectrometric unit which analyzes the dried sample by mass spectrometry,

wherein said separation unit includes the microchip according to Claim 17.